

REMARKS/ARGUMENTS

The final Office Action of October 20, 2005, has been carefully reviewed and this response addresses the concerns stated in the Office Action. All objections and rejections are respectfully traversed.

I. STATUS OF THE CLAIMS

Claims 1-4, 6-16, and 18-33 are still pending in the application.

Claims 5 and 17 have been previously cancelled without prejudice.

Claims 34-36 have been withdrawn from consideration by the constructive election of Group I, claims 1-4, 6-16, and 18-33.

Claims 1-4, 7-16, 18, 19, and 21-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Liang, U.S. Patent No. 6,738,811, filed on March 31, 2000, issued May 18, 2004 (Liang), in view of Sampath et al., U.S. Patent No. 6,892,317, filed on December 16, 1999, issued May 10, 2005 (Sampath).

Applicant respectfully points out that Liang issued May 18, 2004, 3 ½ years after the filing of the present application (December 11, 2000). Applicant therefore reserves the right under 37 C.F.R. § 1.131 to swear behind Liang.

Applicant respectfully points out that Sampath issued May 10, 2005, 4 ½ years after the filing of the present application. Applicant therefore reserves the right under 37 C.F.R. § 1.131 to swear behind Sampath.

Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang in view of Sampath, and further in view of Johnson, U.S. Patent Application Number 2003/0237016, filed March 1, 2001, published December 25, 2003.

Applicant respectfully points out that Johnson was published on December 25, 2003, three years after the filing of the present application. Applicant therefore reserves the right under 37 C.F.R. § 1.131 to swear behind Johnson.

II. RESTRICTION/ELECTION TRAVERSAL, REQUEST FOR RECONSIDERATION

On pages 2-3, in paragraphs 2-6,

(1) The Office Action states (paragraphs 2 and 3) that invention I (claims 1-4, 6-16, and 18-33) drawn to network resource allocating, classified in class 709, subclass 226, has separate utility -- such as allocating or predicting hardware resource for future level of availability hardware resource based on the obtained historical data -- from invention II (claims 34-36) drawn to computer network monitoring, classified in class 709, subclass 224 -- such as gateway for polling parameters according to polling interval for correcting resource problem;

(2) The Office Action states (paragraphs 4 and 5) that because these inventions have acquired a separate status in the art as shown by their different classification and are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

(3) The Office Action states (paragraph 6) that since an action on the merits for the originally presented invention (claims 1-4, 6-16, and 18-33) has been received, the originally presented invention has been constructively elected for prosecution on the merits, and that claims 34-36 are withdrawn from consideration as being directed to a non-elected invention.

Applicant respectfully maintains that claims 1-4, 6-16, and 18-36 are directed to the same invention and should be examined together since the inventions of Group I and Group II are so closely related together as to justify an examination of all of the claims as a single invention. Furthermore, it is well established that restriction is not mandatory merely because the subject matter of the claims may be directed to divergent subject matter. The fact that two methods, or a method and an apparatus may be searched in different subclasses, is not seen to be a material factor, at least insofar as the restriction requirement for the claimed invention is concerned. In fact, according to MPEP 803, "If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent and distinct inventions." In light thereof, it is believed that an action on the merits of claims 1-4, 6-16,

and 18-36 in a single application is in order. In view of the foregoing discussion, Applicant submits that the requirement for restriction is improper and should be withdrawn.

However, in view of the Examiner's comments, the constructive election of claims 1-4, 6-16 and 18-33 remain in effect.

III. CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

On pages 3-7 of the Office Action, the Office Action has rejected claims 1-4, 6-16, and 18-33 under 35 U.S.C. § 103(a) as being unpatentable over Liang in view of Sampath.

In order for a rejection under 35 U.S.C. §103 to be sustained, the Office Action must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicant respectfully asserts that claims 1-4, 6-16, and 18-33 are patentable over the combination of Liang, Sampath, and Johnson because:

(1) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed method, system, and computer product for automatically allocating additional hardware resources to a computer having a plurality of hardware resources including the steps or elements of monitoring hardware resources to obtain historical data pertaining to the historical *availability* to the computer of the monitored hardware resource (claims 1, 9, 15, 23, and 29).

(2) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed providing a signal based on the automatic analysis, and automatically updating the analysis technique based on the signal (claims 1, 9, 15, 23, and 29).

(3) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed automatically analyzing, according to an analysis technique specific to each selected one of the hardware resources, the obtained historical data to arrive at a prediction of a future level of availability of a monitored hardware resource (claims 1, 9, 15, 23, and 29).

(4) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed adding additional hardware resources when current hardware is predicted to be unavailable (claims 29 and 31).

(5) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed means for analyzing all available applications with respect to the utilization by the available applications of the monitored hardware resources (claim 28).

(6) None of Liang, Sampath, nor Johnson alone nor their combination teaches or suggests Applicant's claimed automatically updating the analysis technique based on the signal (provided when the prediction of the future level of availability of the resource fails to meet an availability threshold) (claims 1, 9, 15, 23, and 29).

(7) The addition of either Sampath or Johnson to Liang would prevent Liang from operating correctly because neither Sampath nor Johnson requires its electronic devices (content router in Johnson) to be installed with a piece of hardware or software to perform the device monitoring. Therefore, the electronic devices of Sampath and Johnson would not provide Liang with the information expected by the monitoring server of Liang, and thus their failure could not be detected or predicted. In other words, the function of Liang would be completely thwarted by the addition of either Sampath or Johnson.

(8) The addition of Johnson to Liang would prevent Liang from operating correctly because the content router of Johnson, which appears to be considered, in some places, by the Office Action to be equivalent in function to the registered server of Liang, is providing monitoring of the health of hardware and software subsystems. The registered server of Liang is expected to collect information and pass it to the monitoring server for analysis, and would not operate properly if the registered server were itself interpreting the collected information and making it available to the user because the user would be receiving possibly

conflicting information from the registered server and the monitoring server. Thus the function of Liang would be thwarted by the addition of Johnson.

The patentability of claims 1-4, 6-16, and 18-33 is further supported by the following remarks/arguments.

On pages 3-7 of the Office Action, in paragraphs 7-9, 15, 20, 22, and 23 with respect to independent claims 1, 9, 15, 23, and 29,

(1) The Office Action states that Liang discloses the invention substantially as claimed including the method of automatically allocating additional hardware resources to a computer having a plurality of hardware resources, said method comprising monitoring use of selected ones of the hardware resources by the computer to obtain historical data pertaining to the historical availability to the computer of each of the monitored hardware resources (i.e. monitoring computer components and keep history for each of the parameters being monitored) (Liang Abstract; col. 2, lines 21-32, col. 9, lines 28-38).

In the first cited passage (Abstract), Liang states that a computing device is installed a module that periodically samples values representing the health condition of the computing device, that the sampled values are sent to a monitoring server for analysis, that the monitoring server determines if the computing device is in a good/poor condition based on historic data that are further used to predicate what the remaining time is for the computing device to actually break down so that necessary measures may be taken to prevent an actual breakdown.

In the second cited passage (col. 2, lines 21-32), Liang states that the monitoring server maintains a database that includes information regarding each of the registered computing devices and one or more data areas, that at least one of the data areas is used to keep history for each of the parameters being monitored, that at least another one of the data areas is used to keep the sampled values for a defined period and refreshed after the sampled values are consolidated in the history data area, that the historic data in the history data area are used to predicate based on a latest sampled value what the remaining time may have for the parameter to actually break down so that necessary measures may be taken to prevent an actual breakdown.

In the third cited passage (col. 9, lines 28-38), Liang states a method that includes the step of determining if the component (computing device) is in a normal condition by comparing a measured value with a set of criteria designated for the component, wherein the criteria are based on historic data, that include measured values collected for a specific duration and surrounding values collected for the same corresponding specific duration.

In other words, the system of Liang is monitoring parameters such as device thermostats, fan speeds, and voltages (col. 2, lines 39-41) on a registered server to determine if the registered server is going to fail based on the history of the normal range of the parameters. Applicant, on the contrary, claims a method for automatically allocating additional hardware resources comprising the step of monitoring use of hardware resources by the computer to obtain historical data pertaining to the historical availability to the computer of each monitored hardware resource. Furthermore, Applicant collects data such as memory disk space, CPU, system I/O, network bandwidth utilization, number of active processes, and number of users (Applicant's specification, page 6, lines 15-17). Thus, not only does Liang state that a registered server is monitored to predicate upcoming failure, and that is different from Applicant's claimed automatically allocating additional hardware resources, but Liang does not monitor availability, as Applicant claims, but instead monitors, for example, the temperature of the registered server, in order to determine whether or not the registered server is going to fail, not to determine whether to add additional resources. Nowhere does Liang disclose or suggest automatically allocating additional resources. Thus, Liang does not make obvious Applicant's claims 1, 9, 15, 23, and 29.

(2) The Office Action states that, with respect to claims 8 and 22 (pages 6 and 7) as well as claims 1, 9, 15, 23, and 29, Liang discloses the step of automatically analyzing, according to an analysis technique specific to each selected one of the hardware resource (i.e. plurality of parameters for each component being monitored) (Liang 304 FIG. 3, col. 6, lines 15-30), the obtained historical data to arrive at a prediction of a further level of availability of a monitored hardware resource (i.e. analyzing the historic data to find out the trend from which a remaining time to a breakdown may be estimated), the monitored hardware resources are selected from the set of resources, including memory, CPU, disk, available ports, and network resources (col. 2, lines 38-49, col. 8, lines 35-39).

In the cited figure (304, FIG. 3), Liang depicts a table of parameters such as power and temperature associated with a registered server ID, device info, and other info.

In the first cited passage (col. 6, lines 15-30), Liang states that a list of registered servers is maintained, that parameters or components to be monitored in a registered server are maintained in a table, that information regarding each of the registered servers is maintained, and that other information regarding the registered servers such as an IP address, monitoring frequency, how the status of the server shall be reported, or what measures should be taken if the server is in critical condition, is maintained.

In the second cited passage (col. 2, lines 38-49), Liang states that the system can automatically detect or predict a failure of a registered server, that the prediction is performed by software and/or hardware units built into the system, that critical parts of a registered server are monitored -- for example, CPU thermostat, motherboard thermostat, chassis thermostat, cooling fan speed and voltages of many critical points of the registered server – that a proxy server is configured to gather data from the registered server for diagnostic and preventative purpose, that a monitoring server is configured with an expert system based on historic data collected over the time to predict when the registered server may experience a breakdown due to the failure of one of the parameters being monitored, that if the prediction is critical to the registered server, the owner of the registered server is notified of “the sickness” by, for example, email, pager or phone, that, depending on the “sickness” level, different measures may be taken to restore the health of the registered server.

In the third cited passage (col. 8, lines 35-39), Liang states that the remaining time to breakdown is determined by analyzing historic data to find out the trend.

In other words, Liang states that information such as power, temperature, and fan speed about a registered server are collected and maintained by a monitoring server. Liang also states that the IP address and monitoring frequency for each registered server are maintained, and that the monitoring server has an expert system based on historic data. Liang further states that the monitoring server detects and predicts the failure of a registered server. Applicant, on the contrary, claims a method for automatically allocating additional hardware resources to a computer having a plurality of hardware resources, said method comprising the step of automatically analyzing, according to an analysis technique specific to

each selected one of the hardware resources, the obtained historical data to arrive at a prediction of a future level of availability of a monitored hardware resource. Nowhere does Liang disclose or suggest Applicant's claimed method for allocating additional hardware resources. Liang states that the monitoring server detects failure of a registered server, but has no information whatsoever about adding additional resources if necessary. Nor does Liang disclose or suggest Applicant's claimed analysis technique specific to each hardware resource. Liang states that the monitoring server collects data for registered servers, but nowhere does Liang disclose an analysis technique specific to each selected one of the hardware resources. Liang states that when the status of a parameter is worsening, it is possible to predict the remaining time for the status to reach the threshold through a calculation that can be performed based on a number of mathematical schemes (col. 7, lines 39-43). In other words, Liang applies standard analysis techniques to data collected from all registered servers, not Applicant's claimed analysis technique specific to each selected one of the hardware resources. Thus, Liang does not make obvious Applicant's claims 1, 8, 9, 15, 22, 23, and 29.

(3) The Office Action states that, with respect to claims 2, 3, 10, 16, 24, and 30 (pages 5-7) as well as claims 1, 9, 15, 23, and 29, Liang discloses a method of automatically allocating additional hardware resources to a computer having a plurality of hardware resources comprising the step of providing a signal when the prediction of the future level of availability of the monitored hardware resource fails to meet an availability threshold (i.e. notification signal in abnormal condition when measured value is out of predefined range) (claims 1, 9, 15, 23, and 29), performing at least one calculation with respect to certain of the obtained historical data (i.e. calculation based on a number of mathematical scheme) (claims 2, 10, 16, and 24), and wherein said step of responding to the signal by automatically reserving or ordering occurs when the prediction indicates that the resources are below the availability threshold (claim 3) (Liang col. 7, lines 37-46 (2), col. 8, lines 31-48 (3), col. 9, lines 59-67).

In the first cited passage (col. 7, lines 37-46), Liang states that the remaining time before a parameter reaches a threshold can be determined, and that it is assumed that reaching a threshold when the status of a parameter is worsening could lead to a breakdown.

In the second cited passage (col. 8, lines 31-48), Liang states that a notification is automatically sent out to the owner of the registered server if a breakdown has occurred, that otherwise, sampled values are compared with historic data to predict when a component may fail, that the remaining time to failure is determined by analyzing the pertinent historic data to find out the trend from which a remaining time to a breakdown may be estimated, that service may be automatically accommodated, for example, by readjusting the status of an ongoing application, or cleaning up the memory or residual values in the memory, and that the sampled values could be archived to update the historic data.

In the third cited passage (col. 9, lines 59-67), Liang states that determining if the component is in a normal condition comprises comparing the measured value with a predefined range, and sending a notification to an owner of the one of the registered devices when the measured value is determined out of the predefined range.

In other words, Liang states that historical data are used to determine if the registered server is going to fail. Liang further states that the owner of the registered server is notified if there is a failure, and that failures may be addressed by taking failure recovery measures. Applicant, on the contrary, claims a method for allocating additional hardware resources including the steps of providing a signal when the predicted future level of availability fails to meet an availability threshold, and responding to the signal by automatically reserving or ordering. Nowhere does Liang disclose or suggest Applicant's claimed predicting availability and then reserving or ordering if the availability falls below a threshold. Liang's failure prediction is followed by taking failure remediation measures, but nowhere does Liang disclose predicting availability, nor does Liang disclose reserving or ordering. In fact, Liang has no provision whatsoever for Applicant's claimed adding additional hardware resources when current hardware is predicted to be unavailable. Further, Liang states that it is possible to predict the remaining time for the status to reach a threshold, and that the calculation (of the prediction) can be performed based on mathematical schemes, but nowhere does Liang disclose or suggest Applicant's claimed performing a calculation with respect to historical data. Liang states that the status of a parameter can worsen, which typically reflects in the historic data, but nowhere does Liang relate the historic data to any calculation. Thus, Liang cannot make obvious Applicant's claims 1-3, 9-10, 15-16, 23-24, and 29-30.

(4) The Office Action states that, with respect to claims 1, 9, 15, 23, and 29, Liang discloses a method of automatically allocating additional hardware resources to a computer having a plurality of hardware resources comprising the step of automatically updating the analysis technique based on the signal (i.e. automatically consolidated data) (Liang FIG. 4B, col. 7, lines 20-36, col. 8, line 45-48).

In FIG. 4B, Liang depicts historic temperature averages for each day based on data sampled on a predefined time interval and combined to represent a measurement period.

In the first cited passage (col. 7, lines 20-36), Liang states that, at the end of a day, data are automatically consolidated into a single representation, for example, temperature and surrounding temperature, that a series of historic data is collected, and that a possible breakdown of a component or a part in a server or the server itself is predicated based on the historic data.

In the second cited passage (col. 8, line 45-48), Liang states that if the remaining time is not critical, e.g. a few months, the sampled values are archived to update the historic data.

In other words, Liang tracks physical conditions, such as the temperature of the registered server, and a failure is predicted when that temperature trend, formulated by analyzing the average temperatures for a recent past period, indicates that the registered server will fail within a certain amount of time. Applicant, on the contrary, claims automatically updating the analysis technique based on the signal (provided when the prediction of the future level of availability of the resource fails to meet an availability threshold). The analysis technique for each registered server of Liang remains constant, i.e. average a parameter over time, determine a trend, and notify the owner of the registered server if the trend indicates that the registered server will fail. The parameters might vary per registered server, but nowhere does Liang disclose or suggest Applicant's claimed automatically updating the analysis technique. Thus, Liang cannot make obvious Applicant's claims 1, 9, 15, 23, and 29.

(4) The Office Action states that, with respect to claims 1, 9, 15, 23, and 29, Liang discloses a method for automatically allocating additional hardware resources comprising the step of, without user intervention, responding to the signal by automatically reserving or ordering an additional physical hardware resource that is not in the computer when the signal

is provided (i.e. ordering of replacement part) (Liang col. 5, lines 31-39, col. 7, lines 52-65, col. 8, lines 41-45).

In the first cited passage (col. 5, lines 31-39), Liang states that, based on a set of criteria for each of the register servers, a monitoring server determines a status condition for each registered server, and that if the server is “critical” (about to fail), measures such as notifying the owner, providing solutions, arranging replacement, or scheduling repairs happen automatically.

In the second cited passage (col. 7, lines 52-65), Liang states that the owner of a registered server is notified of the remaining time to failure through, for example, e-mail, that the e-mail can include a list of service providers who could provide solutions for the failure, or that the e-mail can include a confirmation that the parts have been ordered or where and when the parts will arrive.

In the third cited passage (col. 8, lines 41-45), Liang states that the service needs may include an order of a replacement, and that adjusted parameters can be sent to a registered server to cause, for example, an application to readjust its status or clean up the memory or residual values in memory.

In other words, Liang measures such as ordering parts and adjusting parameters are taken when a failure is about to occur. Applicant, on the contrary, claims a method for allocating additional hardware resources including the step of automatically reserving or ordering an additional physical hardware resource that is not in the computer when the signal is provided. Liang’s replacement part, by definition, is replacing a part that is in the computer when it fails. Applicant, on the contrary, claims an additional hardware resource that is not in the computer when the signal is provided. Applicant is pulling in additional resources when there is a need. Nowhere does Liang disclose or suggest Applicant’s claimed reserving additional hardware resources because the ordering of replacement parts is simply swapping an existing failed part for a working part. These are not additional resources as Applicant has contemplated, and thus, Liang cannot make obvious Applicant’s claims 1, 9, 15, 23, and 29.

(5) The Office Action states that, with respect to claims 1, 9, 15, 23, and 29, Liang does not disclose an additional physical hardware resources that is to be later manually physically added to the computer after the reserving or placing of an order.

(6) The Office Action states that, with respect to claims 1, 9, 15, 23, and 29, Sampath discloses an additional physical hardware resources that is to be later manually physically added to the computer after the reserving or placing of an order (i.e. service require specialized technician) (col. 7, lines 54-60, col. 8, lines 48-60).

In the first cited passage (col. 7, lines 54-60), Sampath states that a service coordination circuit, having received an action request, could automatically schedule a service date, dispatch a service technician, and/or inform a third party service provider that routine maintenance is needed.

In the second cited passage (col. 8, lines 48-60), Sampath states that an action request can be routed to an OEM service provider in order to schedule a highly specialized technician or warranty repair, that the action request is received via a network, link, and I/O interface at the service coordination, and that the service coordination schedules a service date.

In other words, Sampath states that, when there is an electronic device failure, the diagnostic server sends an action request for repair. Applicant, on the contrary, claims a method for allocating additional hardware resources including the step of automatically reserving or ordering an additional physical hardware resource that is to be later manually physically added to the computer after the reserving or placing of an order. Neither Liang nor Sampath disclose or suggest allocating additional hardware resources, because both address the problem of failed hardware resources that require replacement/repair. Further, Sampath does not disclose or suggest manually physically adding the additional hardware resource. Sampath simply states that a service technician could be dispatched. From the context of Sampath, the service technician would be replacing/repairing existing parts, whereas Applicant clearly claims that *additional* hardware resources are manually physically added to the computer. Thus, neither Liang nor Sampath nor their combination can make obvious Applicant's claims 1, 9, 15, 23, and 29.

On pages 5 and 7 of the Office Action, in paragraphs 12 and 21 with respect to dependent claims 4 and 18,

(1) The Office Action states that Liang does not disclose without user intervention, enabling the reduction of the monitored hardware resources when the prediction indicates that the monitored hardware resources will not be required.

(2) The Office Action states that Sampath discloses without user intervention, enabling the reduction of the monitored hardware resources when the prediction indicates that the monitored hardware resources will not be required (Sampath col. 3, lines 50-61).

In the cited passage (col. 3, lines 50-61), Sampath states that, since the electronic devices, diagnostic server, and parts and service providers are all interconnected, the system can pool diagnostic data received from the electronic systems for providing better failure prediction analysis, and that there is a reduction in service time and down time due to better failure prediction. Applicant, on the contrary, claims a method for automatically allocating additional hardware resources that includes the step of reducing hardware resources when they are not required without user intervention. Nowhere does Sampath disclose reducing hardware resources when they are not required. In the system of Sampath, as well as the system of Liang, failure is predicted and managed, and Sampath states that service time is reduced, but in neither Sampath nor Liang is Applicant's claimed *reduction of hardware resources* when they aren't required.

On pages 6-7 of the Office Action, in paragraphs 13, 19, 21, and 22 with respect to dependent claims 7, 14, 21, and 28, the Office Action states that Liang discloses analyzing available applications with respect to the utilization by the available applications of the monitored hardware resources (i.e. monitoring plurality of applications, programs) (col. 5, lines 11-30).

In the cited passage (col. 5, lines 11-30), Liang states that a plurality of predefined parameters of designated applications/programs/parts executing/running are monitored through software that is downloaded to the registered server, and that the software collects the status information for a monitoring server remotely located with respect to the registered server. Liang further states that the status may include parameters of applications/programs being executed and components being functioning in a registered server, that the parameters may include memory leakage status, various standards compliance, temperature of a power supply, the rotating speed of the hard disk, cooling fan conditions in the registered server, and

additional parameters or status for determination of the health condition of the registered server.

In other words, Liang downloads software to a registered server and collects information to determine the health of the registered server. Applicant, on the contrary, claims a method for allocating additional hardware resources that includes the step of analyzing available applications to determine how much the applications are using the monitored hardware resources. Liang's parameters include temperature of a power supply and cooling fan conditions, but nowhere does Liang disclose collecting data that would support Applicant's claimed determining utilization of hardware resources, because Liang is attempting to determine if the hardware is going to fail, not, as Applicant claims, whether to automatically allocate additional hardware resources. Thus, Liang does not make obvious Applicant's claims 7, 14, 21, and 28.

On pages 6-7 of the Office Action, in paragraphs 17, 22, and 23 with respect to dependent claims 11, 12, 25, 26, 31, and 32,

(1) The Office Action states that Liang does not disclose adding the hardware resources to said computer from a remote location and removing the hardware resources from said computer.

(2) The Office Action states that Sampath discloses adding the hardware resources to said computer from a remote location and removing the hardware resources from said computer (i.e. control command for re-configuration hardware (col. 9, lines 36-54)).

In the cited passage (Sampath col. 9, lines 36-54), Sampath states that control commands could include calibration procedures, device set-up procedures, control re-configuration commands, hardware re-configuration commands, and the like. Sampath further states that the monitored electronic system and diagnostic server and the various service and/or parts/consumable suppliers could be each remotely located on a distributed network, or that all, or portions thereof, could be incorporated into one or more of the other systems of the system. Elsewhere (col. 9, lines 30-35), Sampath states that the interrogation commands and control signals are representative of interrogation commands and control signals passed between one or more service engineers and the particular electronic system

either directly or via a processor located on the electronic system, or commands autonomously generated by an autonomous repair agent.

In other words, in the system of Sampath, interrogation commands and control signals are initiated by service engineers or autonomous repair agents. Applicant, on the contrary, claims enabling an adjustment in resources with the future level of availability of the monitored resource fails to meet an availability threshold including the steps of adding hardware resources from a remote location and removing the hardware resources. Nowhere do either Liang or Sampath disclose or suggest Applicant's claimed adjusting hardware resources according to a fluctuation in availability with respect to a threshold because the systems Liang and Sampath address the issue predicting device failure and scheduling repair. Further, nowhere do either Liang or Sampath, in response to a needed adjustment in resources due to a fluctuation in availability, add hardware resources from a remote location or remove hardware resources, because the control commands of Sampath respond to equipment failure, not to adjusting resources, and because the control commands of Sampath are initiated by service engineers and repair agents, not, as Applicant has claimed, without user intervention.

On pages 6-7 of the Office Action, in paragraphs 18, 21, 22, and 23 with respect to dependent claims 13, 19, 27, and 33, the Office Action states that Liang discloses storing historical data on resource usage (Liang FIGs. 4A-C and 6, col. 6, lines xx, col. 7, lines 20-36, col. 8, lines 12-20).

In FIGs. 4A-C and 6, Liang depicts raw data, averaged data, and data trends, the data including temperature, cooling fan speed, and hard disk storage rate.

Applicant notes that the first cited passage, "col. 6, lines" is incomplete. Applicant is unable to appropriately respond to the Office Action without a complete citation.

In the second cited passage (col. 7, lines 20-36), Liang states that, at the end of a day, data are automatically consolidated into a single representation, for example, temperature and surrounding temperature, that a series of historic data is collected, and that a possible breakdown of a component or a part in a server or the server itself is predicated based on the historic data.

In the third cited passage (col. 8, line 45-48), Liang states that the sampled values could be archived to update the historic data.

Applicant, on the contrary, claims adjusting hardware resources including the step of monitoring use of selected ones of the hardware resources by the computer to obtain historical data pertaining to the historical availability to the computer of each the monitored hardware resource and storing historical data on resource usage. Liang's data – temperature, cooling fan speed, disk storage rate – are monitored and recorded in order to determine a trend in order to determine if the registered server is going to fail and approximately when it will fail. Liang does not monitor data and obtain historical data pertaining to historical availability of hardware resources as Applicant has claimed because Liang's temperature, cooling fan speed, disk storage rate, and other such types of parameters do not provide hardware availability information, which would be of the form of utilization of CPU, memory, networking, input/output (IO), and applications that are running on the system on a user-by-user basis (Applicant's specification page 3, lines 1-6). In Liang, there is no form of monitoring resource usage, and thus, there is no support in Liang for Applicant's claims 13, 13, 19, 27, and 33.

On pages 8 of the Office Action, in paragraphs 24-26 with respect to dependent claims 6 and 20,

(1) The Office Action states that Liang and Sampath do not specifically disclose the signal is in graphical form for each of the monitored hardware resources.

(2) The Office Action states that Johnson discloses the signal is in graphical form for each of the monitored hardware resources (i.e. GUI) (Johnson, paras. 96 and 106).

In the first cited paragraph (para. 96), Johnson states that WEB screen panels may be generated internal to content router 200 such that content router 200 may provide its own systems management graphical user interface (GUI), that WEB based protocols preferably provide the capability to modify content router 200 remotely, and that examples of such content router 200 modification include configuration and remote software/firmware updates.

In the second cited paragraph (para. 106), Johnson states that, with respect to monitoring, content router monitors hardware and software subsystems, that the GUI layer of

the content router interprets the monitored data into meaningful status information, and that the interpreted data are made available to a user for interpretation. Elsewhere (para. 105) Johnson states that the content router performs various fault management functions.

In other words, the content router monitors subsystems, interprets the monitored fault management data, and provides that information to a user of the GUI. Applicant, on the contrary, claims providing a signal in graphical form when the prediction of a future level of availability of a monitored hardware resource fails to meet an availability threshold. Nowhere does Johnson disclose or suggest Applicant's graphical signal with respect to hardware resource availability because Johnson's content router is performing fault management monitoring. As previously discussed, availability monitoring involves monitoring certain parameters, whereas fault management monitoring involves another mutually exclusive set. Therefore, Johnson does not make obvious Applicant's claims 6 and 20.

IV. CONCLUSION

Since Liang, Sampath, and Johnson, separately or in combination, do not either teach or suggest each and every element of Applicant's independent claims 1, 9, 15, 23, and 29, and claims 2-4, 6-14, 16, 18-22, 24-28, and 30-33, which depend therefrom, Applicant's independent claims 1, 9, 15, 23, and 29, and claims 2-4, 6-14, 16, 18-22, 24-28, and 30-33, which depend therefrom, are not made obvious by the combination of Liang, Sampath, and Johnson. A rejection under 35 U.S.C. § 103(a) is inappropriate.

Applicant asserts that independent claims 1, 9, 15, 23, and 29, and claims 2-4, 6-14, 16, 18-22, 24-28, and 30-33, which depend therefrom, are in condition for allowance. Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. § 103(a) with regards to independent claims 1, 9, 15, 23, and 29, and claims 2-4, 6-14, 16, 18-22, 24-28, and 30-33, which depend therefrom, for the reasons set forth above.

Applicant respectfully requests that the amendment submitted herein be entered under 37 C.F.R. § 1.116 because it places the present application in condition for allowance, or, in the alternative, in better form for appeal.

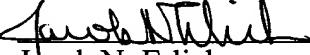
Although no additional fees are anticipated, the Commissioner for Patents is authorized to charge any fees or credit overpayment to Deposit Account No. 50-1078.

The following information is presented in the event that a call may be deemed desirable by the Examiner:

JACOB N. ERLICH (617) 854-4000.

Respectfully submitted,
Thomas C. Harrop, Applicant

Date: December 20, 2005

By: 
Jacob N. Erlich
Reg. No. 24,338
Attorney for Applicant